

Fit to Be Congruent

Reporting Category Geometry

Topic Identifying and describing congruent and noncongruent figures

Materials

- Congruent/Noncongruent Figures (attached)
- Congruent/Noncongruent Recording Sheet (attached)
- Tracing paper
- Congruent/Noncongruent Figures Seen in a Mirror (attached)
- Mirrors (optical drawing instruments)
- Pattern blocks

Vocabulary

plane figures, circles, squares, rectangles, triangles, polygon, sides, angles, size, shape, congruent, congruency, noncongruent

Student/Teacher Actions

1. Tell students that they will be “unpacking” some shapes found on a shape scavenger hunt. Ask students to describe the figures, discussing the number of sides and angles of the figures and identifying whether any of the figures are the same size and same shape. Using this background information, introduce the vocabulary words *congruent* and *noncongruent*. Have students devise personal definitions of both terms. Record the meaning of the terms in a place where students can reference them easily. Ask whether the color matters when determining whether two shapes are congruent or noncongruent.
2. Distribute copies of the Congruent/Noncongruent Figures sheets, copies of the Congruent/Noncongruent Recording Sheet, and tracing paper. Demonstrate how to determine whether a pair of figures is congruent or noncongruent by tracing one of the figures and then placing the tracing over the other figure to check for congruency. Ask students why they need to trace one of the figures. Ask how placing the tracing of one figure on top of the other figure can determine whether the figures are congruent or not. Have students work in pairs or small groups to determine whether the pairs of figures are congruent or noncongruent. Have students share their outcomes with the whole class.

Assessment

- **Questions**
 - What do you notice about congruent figures? What attributes of the figures did you need to compare to determine if they were congruent or noncongruent?

- Given a picture of a real-life image that contains congruent figures, how would you describe the congruent figures? Does the picture contain any noncongruent figures?
- **Journal/Writing Prompts**
 - Locate and describe two shapes in the classroom that are congruent. Justify why you think they are congruent.
 - Using advertisements in magazines or other sources, locate images of things that are congruent and noncongruent. Cut out the advertisements, glue them down, and explain in writing below each one why the images in it are congruent or noncongruent. Justify your reasoning.

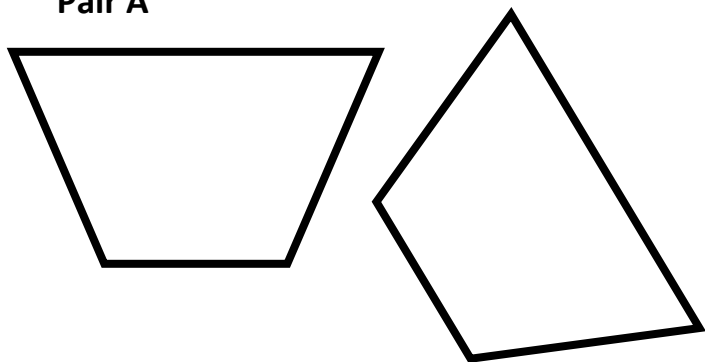
Extensions and Connections (for all students)

- Provide a set of congruent/noncongruent figures on cards and two hula hoops, one for congruent figures and the other for noncongruent figures. Have students form two teams to compete at placing the figure cards into the correct hoops.
- Distribute copies of the Congruent/Noncongruent Figures Seen in a Mirror sheet and mirrors (optical drawing instruments). Have students use the mirrors to verify whether each pair of figures is congruent or noncongruent.
- Distribute pattern blocks, and have each student use them to create a picture or model to trade with a partner. Each student must then create an image that is congruent with the traded picture or model. Allow students to trace the outlines of the pictures or models in order to create their congruent images.

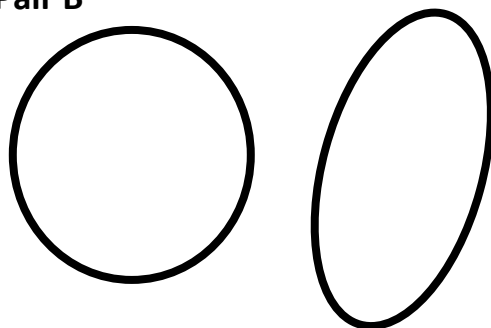
Congruent/Noncongruent Figures

Directions: For each pair of figures below, trace one of the figures, and then use the tracing to determine whether the pair of figures is congruent or noncongruent. Record your answer on the recording sheet.

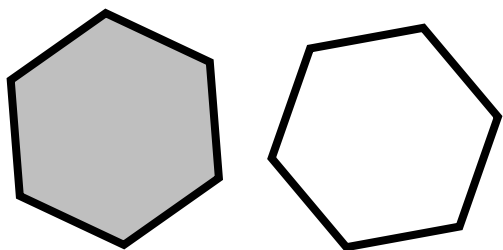
Pair A



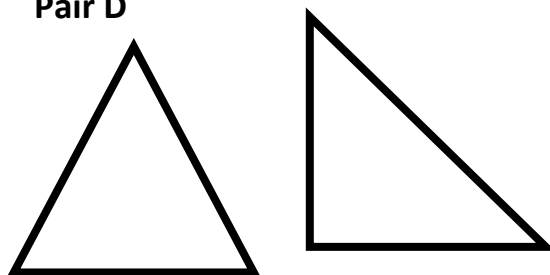
Pair B



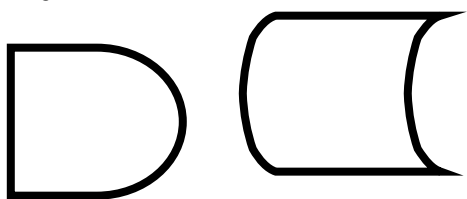
Pair C



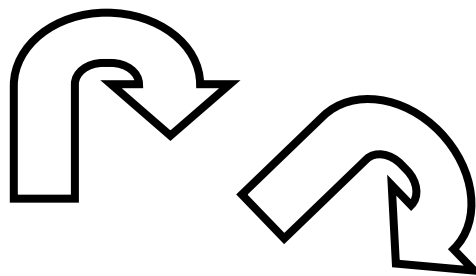
Pair D



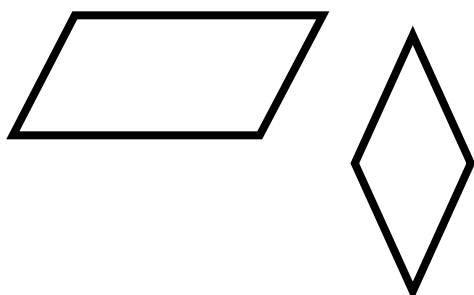
Pair E



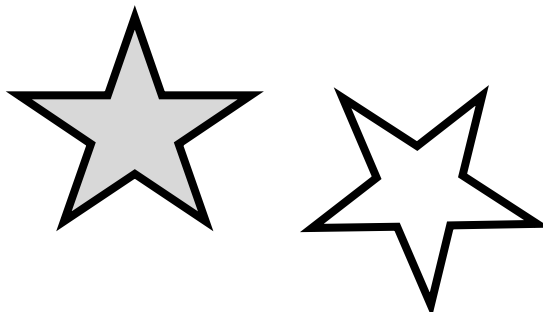
Pair F



Pair G



Pair H



Congruent/Noncongruent Recording Sheet

Name: _____ Date: _____

Pair	Congruent or Noncongruent	Justify your decision
A		
B		
C		
D		
E		
F		
G		
H		

What is your definition of *congruent*? _____

What is your definition of *noncongruent*? _____

Congruent/Noncongruent Figures Seen in a Mirror

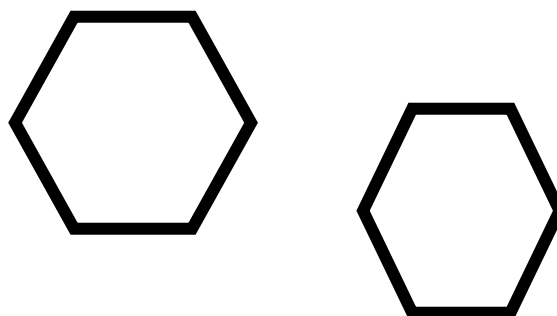
Name: _____ Date: _____

Directions: Use a mirror (optical drawing instrument) to verify whether the pairs of figures in the boxes are congruent or noncongruent. Put a check mark after the correct answer.

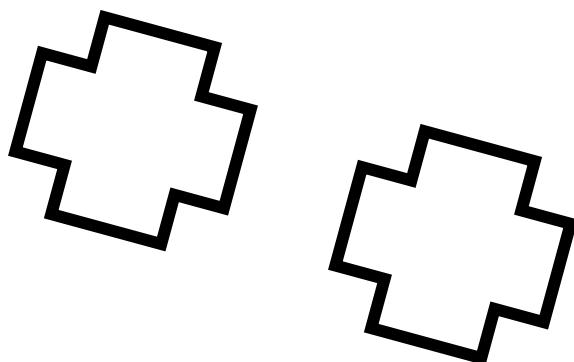
Congruent___ Noncongruent___



Congruent___ Noncongruent___



Congruent___ Noncongruent___



Congruent___ Noncongruent___

